ITEM: 10

SUBJECT: Irrigated Lands Regulatory Program Monitoring – Surface Water & Groundwater

REPORT: Overview of Surface Water and Groundwater Monitoring Considerations

This Item will be repeated in the Fresno or Tulare area at a board meeting to be held 21 August 2012.

The Long-term Irrigated Lands Regulatory Program addresses discharges of pollutants from irrigated agriculture operations that may cause exceedances of water quality objectives in either surface water or groundwater. Water quality monitoring is an essential component of the new Waste Discharge Requirements (WDRs) Orders being prepared by Central Valley Water Board staff. An overview of strategies for surface water monitoring and groundwater monitoring will be presented.

Surface Water Monitoring

The approach for monitoring surface water depends on the type of pollutant(s) and nature of the potential discharges. Staff will provide a brief overview of monitoring strategies in different Board Programs, including wastewater and storm water, and will discuss why monitoring is needed. Considerations for developing an irrigated agriculture surface water monitoring program will be discussed. Important factors include the nature of pollutant discharges and the large area that must be addressed. This leads to a regional monitoring, versus site specific, approach. Multiple monitoring locations are needed to accurately characterize surface water quality conditions in a given area. An overview of ILRP surface water monitoring for the new program will be provided, including examples from the ESJWQC WDRs Order. Staff will also discuss how monitoring results are used in the current program.

Groundwater Monitoring

Proposed groundwater monitoring for the long-term ILRP and how it compares to groundwater monitoring being conducted for other regulatory programs overseen by the Central Valley Water Board will be discussed. The proposed ILRP groundwater monitoring consists of two parallel tracks of data collection. The first track is referred to as trend monitoring and consists of utilizing existing shallow water supply wells, such as domestic wells, to evaluate baseline groundwater quality and assess long-term groundwater quality trends. The second track is referred to as representative

groundwater monitoring with the primary intent of conducting field scale monitoring of selected locations to identify whether management practices being utilized are protective of groundwater quality and how those determinations are affected by site conditions. Representative monitoring would be conducted in high vulnerability areas using wells completed across first-encountered groundwater. This will most-likely require installation of monitoring wells. Monitoring first-encountered groundwater is critical to understand the source of water entering the well and to detect changes in groundwater quality at the earliest possible time. When it is determined what combinations of management practices and site conditions are protective of groundwater quality, this information can be extrapolated to sites that are not monitored to identify if improvement of management practices is needed. The amount of groundwater monitoring may be reduced, if the third-party can demonstrate that an alternative approach (such as vadose zone monitoring and modeling) can reliably predict the effect of irrigated lands discharges on groundwater quality.

Both tracks will require approval by the Executive Officer of work plans submitted by the coalitions that provide implementation specifics. It has been recommended to the coalitions that representative groundwater monitoring be conducted on a region-wide basis rather than by each coalition to minimize the overall level of effort required and cost.

RECOMMENDATION: No action required, workshop information item only.

Mgmt. Review_____
Legal Review_____

2/3 August 2012
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